UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/982,928	10/22/2001	Steven M. Knowles	10765-015001	8524

7590 05/10/2004

STEPTOE & JOHNSON LLP
1330 CONNECTICUT AVENUE, N.W.
WASHINGTON, DC 20036

EXAMINER	
FLANDRO, RYAN M	

ART UNIT	PAPER NUMBER
3679	

DATE MAILED: 05/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/982,928	KNOWLES, STEVEN M.	
	Examiner	Art Unit	
	Ryan M Flandro	3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 March 2004 and 15 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,7-10,12 and 41-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,7-10,12 and 41-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 16 March 2004 has been entered.

Claim Objections

3. In light of Applicant's amendments to the claims, the objections set forth in the final Office action have been overcome.Claim 1 is objected to because of the following informalities: recitation of a "central fluid ***connector***" in line 17 of the claim is inconsistent with previous recitation of such element as a "central fluid ***conductor***." Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 7-10, 12 and 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coutu (Us 1,914,736) in view of Morrison (US 1,532,195).

a. Claim 1. Coutu clearly shows and discloses a flexible joint assembly (assembly of ball and socket joints shown in figures 2 and 3, connection **14** being threadedly connected to connection **14a**) for conducting a fluid comprising a joint assembly inlet **2**, a joint assembly outlet **2**, a fluid flow path between the inlet **2** and the outlet **2**, the fluid flow path including a first pivot joint (figure 2, either side), a second pivot joint (figure 3), wherein each of the first pivot joint (figure 2) and second pivot joint (figure 3) independently comprises a ball and socket joint, where each ball and socket joint comprises a socket **1**; a ball **13 or 13a** received in the socket **1**; a seal **5,11** between the ball **13 or 13a** and the socket **1**, and each ball and socket joint further comprises a compressing member **9** axially compressing the seal **5,11** between the ball **13 or 13a** and the socket **1** and a retaining ring **8** compressing the seal **5,11** between the ball **13 or 13a** and the socket **1**; and a central fluid conductor **16** (at connection between **14 and 14a**) fluidly coupling the pivot joints (figures 2 and 3) wherein the central fluid conductor couples to a first ball **13a** of the first pivot joint (figure 2) and a second ball **13** of a second pivot joint (figure 3), and each retaining ring **8** compresses the seal **5,11** by threadedly connecting to a surface of the socket **1** adjacent to the central fluid [conductor?] **16**, wherein the pivot joints together provide greater than a 60 degree bend between the inlet **2** and the outlet **2** and each pivot joint independently provides greater

than a 35 degree bend in the fluid flow path (see figures 2 and 3; column 1 lines 48-50; columns 2-3).

Coutu does not disclose that each retaining ring **8** compresses the seal **5,11** by threadably connecting to a surface of the socket adjacent to the ball **13 or 13a**. The surface of the socket adjacent to the ball is understood to mean an inner surface of the socket. Coutu discloses only that the retaining ring compresses the seal by threadedly attaching to an outer surface of the socket. Morrison, however, teaches a flexible joint assembly for conducting a fluid wherein a retaining ring **12 or 28 or 29** is threadedly attached to a surface of a socket **1 or 15 or 40** compressing a seal **24 or 33** and further teaches that such threaded connection may be on an inner or an outer surface of the socket **1 or 15 or 40** (see figures 1-3; columns 2 and 3). Inasmuch as Morrison discloses these elements as art recognized equivalents, it would have been obvious to one of ordinary skill in the art to substitute one for the other. In re Fout, 675 F.2d 297, 301, 213 USPQ 532, 536 (CCPA 1982). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Coutu so that the retaining ring was threadably connected to a surface of the socket adjacent to the ball since this type of connection is considered equivalent to a connection to the outer surface of the socket as taught by Morrison.

b. Claim 7. Coutu further shows and discloses the first pivot joint (figure 2) and the second pivot joint (figure 3) together (via threaded union of **14 and 14a**) provide a substantially 90 degree bend between the inlet **2** and the outlet **2** (see figures 2 and 3).

c. Claim 8. Coutu further shows and discloses said central fluid conductor **16** (at union of **14 and 14a**) being unitary.

d. Claim 9. Coutu further shows the central fluid conductor **16** being shorter than 10 centimeters (see figures 2 and 3).

e. Claim 10. Coutu shows and discloses the joint assembly inlet **2** and the joint assembly outlet **2** include a fitting (see figures 2 and 3).

f. Claim 12. Coutu lastly shows and discloses each pivot joint (figures 2 and 3) independently provides greater than a 40 degree bend in the fluid flow path (see figures 2 and 3).

g. Claim 41. Coutu clearly shows and discloses a flexible joint assembly (assembly of ball and socket joints shown in figures 2 and 3, connection **14** being threadedly connected to connection **14a**) comprising a joint assembly inlet **2**; a joint assembly outlet **2**; and a fluid flow path between the inlet **2** and the outlet **2**, the fluid flow path including a first pivot joint (figure 2, either side); a second pivot joint (figure 3); and a central fluid conductor **16** (including connection between **14 and 14a**) coupling the pivot joints, each of the first pivot joint (figure 2) and second pivot joint (figure 3) including an inner member **13 or 13a**; a receiving member **1** dimensioned to pivotally receive at least part of the inner member **13 or 13a**; a sealing member **5** between the inner member **13 or 13a** and the receiving member **1**; a supporting member **11** supporting the sealing member **5** substantially uniformly over the entire length of the seal **5** between the inner member **13 or 13a** and the receiving member **1**; and a retaining ring **8** compressing the seal **5** by

threadably connecting to a surface of the receiving member **1** adjacent to the central fluid connector **16** (see figures 2 and 3; column 1 lines 48-50; columns 2-3).

Coutu does not disclose a retaining ring **8** compressing a supporting member and a sealing member **5,11** by threadably connecting to a surface of the receiving member adjacent to the inner member **13 or 13a**. The surface of the receiving member adjacent to the inner member is understood to mean an inner surface of the receiving member. Coutu discloses only that the retaining ring compresses the supporting member and the sealing member by threadedly attaching to an outer surface of the receiving member. Morrison, however, teaches a flexible joint assembly for conducting a fluid wherein a retaining ring **12 or 28 or 29** is threadedly attached to a surface of a receiving member **1 or 15 or 40** compressing a seal **24 or 33** and further teaches that such threaded connection may be on an inner or an outer surface of the receiving member **1 or 15 or 40** (see figures 1-3; columns 2 and 3). Inasmuch as Morrison discloses these elements as art recognized equivalents, it would have been obvious to one of ordinary skill in the art to substitute one for the other. In re Fout, 675 F.2d 297, 301, 213 USPQ 532, 536 (CCPA 1982). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Coutu so that the retaining ring was threadably connected to a surface of the receiving member adjacent to the inner member since this type of connection is considered equivalent to a connection to the outer surface of the receiving member as taught by Morrison.

h. Claim 42. Coutu further shows and discloses the central fluid conductor **16** includes a tubular central portion (connection between **14 and 14a**) that defines a

longitudinal channel between a first conductor end terminated by the first ball **13** and a second conductor end terminated by the second ball **13a** (see figures 1 and 2).

i. Claim 43. Coutu further shows and discloses the central fluid conductor **16** includes a tubular central portion (connection between **14 and 14a**) that defines a longitudinal channel between a first conductor end terminated by the first inner member **13** and a second conductor end terminated by the second inner member **13a** (see figures 1 and 2).

Response to Arguments

7. Applicant's arguments with respect to claims 1, 7-10, 12, and 41-43 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan M Flandro whose telephone number is (703) 305-6952. The examiner can normally be reached on 8:30am - 5:30pm Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Stodola can be reached on (703) 308-2686. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RMF
5/3/04

Daniel P Stodola

Daniel Stodola
Supervisory Patent Examiner
Technology Center 3670